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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,360	06/20/2003	Andrew Yongsheng Li	0210.02	7103

25712 7590 10/21/2005

USDA-ARS-OFFICE OF TECHNOLOGY TRANSFER  
NATIONAL CTR FOR AGRICULTURAL UTILIZATION RESEARCH  
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PEORIA, IL 61604

EXAMINER

CLARDY, S

ART UNIT PAPER NUMBER

1617

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/600,360	LI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	S. Mark Clardy	1617	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☒ Claim(s) 26 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/5/2005</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

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Claims 1-25, and new claims 26 and 27 are pending in this application. Applicants' claims are drawn to a method of controlling flies and ticks (see claims 7-9) by applying a composition comprising a cytochrome P450 monooxygenase inducer, i.e., a triazine herbicide (claim 3) selected from atrazine, propazine, or simazine (claim 4), and an organophosphate (OP) insecticide (claim 2: coumaphos, diazinon, chlorpyrifos, fenthion, or pirimiphos).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-25 are now rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Lichtenstein<sup>1</sup> et al and Belden et al<sup>2</sup> (both cited on the IDS).

Lichtenstein et al teach that the herbicides atrazine, simazine, monuron, and 2,4-D were known to enhance the insecticidal activity of several OP insecticides, including diazinon (Fig. 1 and Table 2), for at least three insects: *Drosophila melanogaster*, *Musca domestica*, and *Aedes aegypti* larvae (fruitflies, houseflies, and mosquito larvae).

Belden et al teach that atrazine enhanced the toxicity of OP insecticides, including diazinon, in *Chironomus tentans* (midge) larvae (abstract).

One of ordinary skill in the art would be motivated to combine these references because they both disclose the enhancement of OP insecticide activity (specifically for diazinon) by coapplication with the triazine herbicide atrazine.

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<sup>1</sup> Lichtenstein et al. "Synergism of Insecticides by Herbicides". *Science*, 181:847-849. 31 Aug 1973.

<sup>2</sup> Belden et al. "Impact of atrazine on organophosphate insecticide toxicity". *Environmental Toxicology and Chemistry*, 19(9):2266-2274. 2000.

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Thus it would have been *prima facie* obvious to the ordinary artisan at the time the invention was made to have combined a triazine herbicide such as atrazine with an OP insecticide as taught herein because the prior art teaches that such combinations yield synergistically active insecticidal compositions. The prior art teaches that such compositions would be effective for various insect species including flies. It would have been within the skill level of the ordinary artisan to determine appropriate formulation methods and concentrations of the active agents, as well as to recognize the species of insects which would be subject to control by the OP insecticides, and which animal species would be protected thereby.

Claims 26 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Mark Clardy whose telephone number is 571-272-0611. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreenivasan Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
S. Mark Clardy  
Primary Examiner  
Art Unit 1617

October 18, 2005